

**REMARKS**

Claims 1-25 are all the claims pending in the application. Applicants respectfully acknowledge that claims 3-9, 13-19, and 23-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 1, 4, 11, 12, 21, and 24 are amended herein. Claims 1-2, 10-12, 20-22, and 25, stand rejected on prior art grounds. Applicants respectfully traverse these rejections based on the following discussion.

**I. The Prior Art Rejections**

Claims 1-2, 10-12, 20-22, and 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wei et al. (U.S. Patent No. 6,852,582), hereinafter referred to as "Wei", in view of Unger (U.S. Patent No. 6,777,960). Applicants respectfully traverse these rejections based on the following discussion.

Wei teaches a carbon nanotube (CNT) gate field effect transistor (FET), which is used to replace the current metal gate of transistor for decreasing the gate width greatly. The carbon nanotube has its own intrinsic characters of metal and semiconductor, so it can be the channel, connector or next-level gate of transistor. Furthermore, the transistor has the structure of exchangeable source and drain, and can be defined the specificity by outside wiring.

Unger teaches a method of inferring the existence of light by means of a measurement of the electrical characteristics of a nanotube bound to a dye first of all involves bringing a nanotube derivatized with a dye into contact with two conductor

tracks. An electrical parameter of the nanotube is then measured via the two conductor tracks without exposure to light. Then, the dye bound to the nanotube is irradiated, and the electrical parameter of the nanotube is then measured via the two conductor tracks with exposure to light. The difference between the value of the electrical parameter measure without exposure to light and the corresponding parameter measured with exposure to light is then established. Finally, it is inferred, as a function of the difference established, whether light is present.

However, the amended claimed invention, as provided in amended independent claims 1, 11, and 21 include features, which are patentably distinguishable from the prior art references of record. Specifically, amended independent claim 1 provides, in part, "...wherein said CNT FET is adapted to detect defective circuits within said integrated circuit." This feature was previously provided in original dependent claim 4, which the Office Action indicates is allowable subject matter. Hence, amended independent claim 1 and dependent claims 2 through 10, by dependency, are in condition for immediate allowance.

Similarly, amended independent claim 21 provides, in part, "...detecting defective circuits within said integrated circuit using said CNT FET." This feature was previously provided in original dependent claim 24, which the Office Action indicates is allowable subject matter. Hence, amended independent claim 21 and dependent claims 22 through 25, by dependency, are in condition for immediate allowance.

Amended independent claim 11 provides, in part, "...wherein said CNT FET is adapted to measure physical characteristics within said integrated circuit." This feature is inferentially provided in dependent claim 13, which provided, in part, "...wherein said

CNT FET is adapted to measure stress and strain in said integrated circuit, wherein said stress and strain comprise any of mechanical and thermal stress and strain." Here, the terms "mechanical and thermal stress and strain" inferentially refer to "physical characteristics" of the integrated circuit. In fact, page 2, paragraph 2 of the Office Action provides the reason for the allowable subject matter wherein, the "[p]rior art failed to establish the required measuring of physical characteristics rather than electrical characteristics of a carbon nanotube based device." Furthermore, dependent claims 4 and 24 are amended to include this language as well. Hence, amended independent claim 11 and dependent claims 12 through 20, by dependency, are in condition for immediate allowance.

Moreover, the Applicants note that all claims are properly supported in the specification and accompanying drawings, and no new matter is being added. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

## **II. Formal Matters and Conclusion**

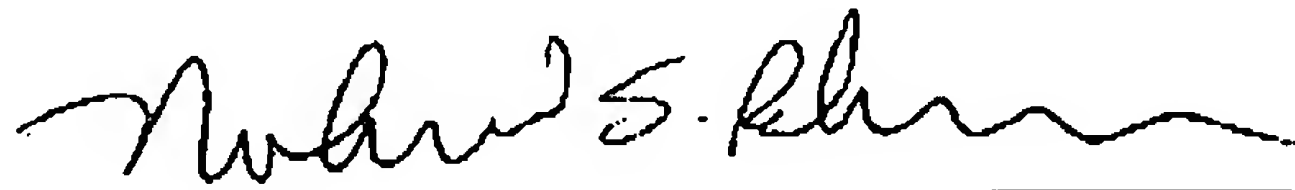
With respect to the rejections to the claims, the claims have been amended, above, to overcome these rejections. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections to the claims.

In view of the foregoing, Applicants submit that claims 1-25, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary. Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0456.

Respectfully submitted,

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